Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Massoud Kayvanjah

GENERAL INFORMATION:

Name:	East Kentucky Power Cooperative, Inc., Hugh L. Spurlock Generating Station
Address:	1301 West Second Street, Maysville, KY
Date application received:	June 8, 2004 (Title V Renewal) and Significant Revision
SIC/Source description:	4911/Fossil Fuel Electric Power Generation
Source I.D. #:	21-161-00009
Activity #:	APE20040001
Source A.I.# :	3004
Permit number:	V-06-007

APPLICATION TYPE/PERMIT ACTIVITY:

[ ] Initial issuance
[X] Permit modification
__Administrative
__Minor
X Significant
[X] Permit renewal
[ ] General permit
[ ]Conditional major
[X] Title V
[ ] Synthetic minor
[ ] Operating
[X] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance
[ ] Compliance certification signed
[ ] Compliance schedule included

APPLICABLE REQUIREMENTS LIST:

[X] NSR [X] NSPS [ ] SIP [X] PSD [ ] NESHAPS [ ] Other
[ ] Netted out of PSD/NSR [X] Major modification per 401 KAR 51:017 (Addition of the fourth Boiler EU#04.

MISCELLANEOUS:

[X] Acid rain source
[X] NOx Budget source
[ ] Source subject to 112(r)
[ ] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[X] Certified by responsible official
[X] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	*Actual Total (tpy) based on coal fired units #1, #2, and #3	Potential (tpy) based on coal fired units #1, #2, and #3	Potential (tpy) based on coal fired unit #4 Only	TOTALS Four generators 13,650 mmBtu/hr
CO	2372	2600	1840	4476
NO_x	5863	6870	1226	8096
PM_{10}	3155	5918	184	6294
PT	12769	24380	184	25606
SO_2	41260	56972	2208	59424
VOC	90	147	44	190
H2SO4		237	61	299
Fluorides		0.3	0.57	0.87
Lead		0.3	0.07	0.37
HCl		159	36	195

*Actual based on current EIS database @ DAQ

SOURCE DESCRIPTION:

An application for renewal of the Title V Permit V-97-050 Revision II for the East Kentucky Power Cooperative Inc.-Hugh L. Spurlock Power Station was received on June 8, 2004. The permit renewal is combined with renewals of the Phase II Acid Rain, and the NO_x Budget permits, and is combined with a major modification for construction of boiler Unit 04 (Emission point 17).

Eastern Kentucky Power Cooperative (EKPC) as operator, submitted an air permit application dated September 13, 2004 seeking a permit to construct a new 300 megawatt (MW) net nominal generating unit (Emission Unit 17) at its existing Spurlock Generating Station located at Maysville in Mason County, Kentucky. In response to comments from the Division for Air Quality (DAQ), the National Park Service (NPS), and the U. S. EPA, additional information was received from EKPC on December 22, 2004, May 12, 2005, May 26, 2005, August 24, 2005, October 27, 2005, November 9, 2005, November 16, 2005, December 8, 2005, December 21,

2005, January 13, 2006 and January 20 2006. The application was considered to be administratively complete upon receipt of the revised modeling information on January 20, 2006.

The new unit will utilize circulating fluidized bed (CFB) technology. The new CFB boiler will be equipped with Selective Non Catalytic Reduction (SNCR), Pulse Jet Fabric Filters (PJFF), Dry Scrubbing (DS), and Limestone Injection pollution control systems.

Existing equipment at the Spurlock Generating Station includes two (2) Pulverized Coal boilers and one Circulating Fluidized Bed boiler. Emission Unit 01 is a 3500mmBtu/hr dry-bottom wall-fired boiler equipped with an electrostatic precipitator and low-NO_x burner, for which construct began before 1971. In addition, a selective catalytic reduction device was installed in 2003.

Emission unit 02 is a 4850 mmBtu/hr tangentially fired boiler equipped with electrostatic precipitator low-NO_x burners and flue gas desulfurization (FGD) system, subject to review under 40 CFR 52.21 (PSD) in November, 1979. The precipitators were installed as a part of the original plant construction but were rebuilt in 1990-1992. The FGD system is not currently operating, and has not operated since 1985. A selective catalytic reduction device has been installed since the original Title V permit issuance.

Emission unit 08 is a 2500 mmBtu/hr CFB boiler equipped with a baghouse filter, flash dry absorber (FDA), and a selective non-catalytic reduction (SNCR) unit.

The 144 mmBtu/hr auxiliary boiler (Emission Unit 03), is no longer in operation and has been permanently removed from the site. There is a natural draft cooling tower, coal/limestone/ash material handling equipment, an emergency liquefied petroleum gas generator, and fuel oil storage tanks. The existing natural draft cooling tower, coal/limestone/ash material handling equipment, and fuel oil storage tanks will have increased utilization when the new CFB boiler becomes operational.

The new facilities that will be constructed as part of this renewal project will include the CFB boiler (Emissions Unit 17) and its associated control equipment. Additional material handling units to be constructed include coal piles, coal silos, a fly ash bed, fly ash silo, and a limestone silo. The existing combustion units (Emissions Units 01, 02 and 08) are not part of the proposed major modification, and have previously gone through Prevention of Significant Deterioration (PSD) review.

The proposed project constitutes a major modification of a major stationary source as defined in 401 KAR 51:017, Prevention of Significant Deterioration of Air Quality. The proposed project will result in a significant net emissions increase, as defined in 401 KAR 51:001 Section 1(146), of the following regulated air pollutants: Particulate matter (PM & PM_{10}), carbon monoxide (CO), volatile organic compounds (VOC), fluorides, nitrogen oxides (NOx), sulfur dioxide (SO_2), and sulfuric acid (H_2SO_4) mist. In addition, the project will not emit lead above the significant emission rate for lead of 0.6 tons per year (tpy), set forth in 401 KAR 51:001 Section 1(221) and 40 CFR 51. Project emissions of hydrogen sulfide, total reduced sulfur, and reduced sulfur compounds will also be below significant emission levels and are therefore not subject to PSD review.

The Spurlock Generating Station is located in a county classified as "attainment" or "unclassified" for each of the PSD applicable pollutants pursuant to 401 KAR 51:010, Attainment Status Designations. The Spurlock Generating Station is an existing major stationary source under the PSD regulations as defined in 401 KAR 51:001, Section 1(120). The proposed project meets the definition of a major modification and is subject to evaluation and review under the provisions of the PSD regulation for PM & PM_{10}, CO, VOC, fluorides, NOx, SO_2, and H_2SO_4 mist. A PSD review performed in accordance with EPA guidance involves the following six requirements:

1. Demonstration of the application of Best Available Control Technology (BACT).
2. Demonstration of compliance with each applicable emission limitation under 401 KAR Chapters 50 to 65 and each applicable emissions standard and standard of performance under 40 CFR Parts 60, 61, and 63.
3. Air quality impact analysis.
4. Class I area impact analysis.
5. Projected growth analysis.
6. Analysis of the effects on soils, vegetation and visibility.

Furthermore, the source will also be subject to Title V, Title IV Phase II Acid Rain and NO_x SIP Call permitting. The Title V permitting procedures are contained in 401 KAR 52:020. The Title IV permitting procedures are in 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, 40 CFR Part 72, 40 CFR Part 76, and 40 CFR 97. NO_x SIP Call permitting procedures are in 401 KAR 51:160 and 40 CFR 96. This review demonstrates that all regulatory requirements will be met and includes a draft permit that would establish the enforceability of all applicable requirements. This review is to ensure that the source shall be considered in compliance with all applicable requirements, as of the date of permit issuance for the applicable requirements that are specifically identified in the permit, and specifically identified requirements that have been determined to not be applicable to the source

EMISSION AND OPERATING CAPS DESCRIPTION:

NA

OPERATIONAL FLEXIBILITY:

None